

Sewage Sludge Utilization in Maryland

Utilization of sewage sludge in agriculture is beneficial to all Marylanders. Sewage sludge customers get an economical disposal plan. Farmers get a free source of nutrients that increase soil fertility. Maryland gets a cleaner environment by constructively reusing something that is traditionally thought of as waste.

WHAT IS SEWAGE SLUDGE?

Sewage sludge (also known as biosolids) is not sewage. It is one of the final products of the treatment of sewage at a sewage (wastewater) treatment plant. After treatment breaks down the organic matter and kills disease-causing organisms, the remaining fine particles ultimately become sludge. Although much of the water has been removed, sewage sludge for application to farmland is still mostly water and resembles mud.

HOW MUCH SLUDGE IS PRODUCED IN MARYLAND?

Each year more than 700,000 wet tons of sewage sludge are generated in Maryland. As restoration of the Chesapeake Bay continues, fewer nutrients are being released to surface waters from sewage treatment plants decreases, and the amount of sludge generated continues to increase.

HOW IS SLUDGE USED?

There are five major ways that sludge is used in Maryland. An estimated 50 percent of the sewage sludge produced in the state is applied to agricultural land, 18 percent is composted or palletized and made into a commercial soil supplement, and 21 percent is used for land reclamation such as restoring surface mines. The remaining 11 percent is disposed in landfills or incinerated.

WHY APPLY SLUDGE ON FARM LAND?

BY applying sewage sludge on farmland we are recycling nutrients, saving landfill space and money, and helping to reduce nutrient pollution to the Chesapeake Bay. Sewage sludge, freely available to farmers, is an excellent fertilizer because it contains nutrients such as magnesium, zinc, copper, iron, calcium, and sulfur that are beneficial to crops.

WHAT IS THE ROLE OF STATE GOVERNMENT?

The Maryland Department of the Environment (MDE) is the primary agency regulating the utilization of sewage sludge. A sludge contractor files an application with MDE for a Sewage Sludge Utilization Permit that contains the results of soil and sewage sludge tests and other information used to ensure that all regulator requirements are met. The site is also inspected to be sure that the application is correct. If everything is satisfactory, the contractor is permitted to apply the sludge. MDE inspects the farm during and after sludge application. To support the administration of the sludge program, sewage treatment plants are charged fees based on the amount of sludge they produce and how it is used.

WHAT IS THE ROLE OF LOCAL GOVERNMENTS?

County governments, which receive copies of every permit application, can review and comment on each application, request a public informational meeting, participate in site assessment visits, inspect and monitor each site in their county, and have the right to enforce the permit requirements.

WHAT IS THE ROLE OF THE PUBLIC?

Residents near proposed sewage sludge application sites or facilities can attend public

informational meetings or hearings that are scheduled upon request from the local county government after a permit application is received. This is an opportunity to learn about the proposed projects and address any issues that residents may have about these projects. Should any problems develop during a permitted operation, the county or state should be notified to investigate.

SLUDGE STATISTICS

Although MDE has issued more than 4,900 sludge permits since 1974, there have been no documented cases of ill health effects or water pollution from sewage sludge use on farms in Maryland. About 60,000 acres on more than 500 farms throughout Maryland are currently permitted to receive sewage sludge. In Maryland, sewage sludge is recycled more than any other material, both in terms of quantity (over 440,000 tons per year) and rate (about 88%).

HOW CAN YOU BE SURE SLUDGE APPLICATION IS SAFE?

MDE has set up the following requirements to ensure that use of sewage sludge on land is safe for both humans and the environment:

- **Pathogen Control** – Regulations require that sewage sludge be treated to reduce disease-causing organisms to safe levels.
- **Heavy metals** – Regulations set maximum allowable concentrations in sewage sludge and maximum amount that can be applied to land.
- **Pretreatment** – Industrial waste is treated to remove contaminants before being released to the sewer system.
- **Buffer Zones** – Setbacks from 10 to 400 feet from various site features may be required.
- **Slope Requirements** – Sewage sludge may not be applied on slopes greater than 15% unless otherwise approved by MDE.
- **Application Rates** – Application rates are calculated to ensure that crops use all sewage sludge nitrogen without excess runoff or leaching to the groundwater.
- **Frozen Ground Restrictions** – Slopes must be less than 6%, buffers are increased, soils must have good drainage, and vegetative cover must be present.
- **Nutrient Management Plans** – These required plans show the amount and kind of nutrients needed on each field of a farm and set a nutrient budget to ensure no excess nutrients are applied. This protects water quality by minimizing runoff.
- **Time Restrictions** – No grazing by animals for 30 days, controlled public access for 12 months, no crops to be eaten raw by people for 3 years.
- **Monitoring Records** – Sewage sludge analyses are submitted to MDE from treatment plants, a recent sewage sludge analysis is required for each permit application, and records from applicators, site inspections, and treatment plants are reviewed.
- **Site Inspection** – Site inspections are held during permit review by MDE and County Health staff, during sewage sludge operation, and after completion of application of sewage sludge.

NEED MORE INFORMATION?

Please contact the Maryland Department of the Environment's Sewage Sludge Utilization Section at (410) 537-3375 with questions regarding sewage sludge utilization in Maryland.

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